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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,174	07/29/2003	Bhushan Mangesh Kanekar	04546	7653

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THE LAW OFFICE OF KIRK D. WILLIAMS  
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DENVER, CO 80210

EXAMINER
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FARROKH, HASHEM

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/630,174	Applicant(s) KANEKAR ET AL.	
	Examiner Hashem Farrokh	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-23 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/16/04-3/16/05</u> | 6) <input type="checkbox"/> Other: _____  |

The instant application having application No. 10/630,174 has a total of 23 claims pending in the application; there are 6 independent claims and 17 dependent claims, all of which are ready for examination by the examiner.

**INFORMATION CONCERNING IDS:**

The information disclosure statements (IDSs) submitted on 9/16/04, 9/22/04, and 3/16/05 were considered by the Examiner. The submissions are in compliance with the provisions of 37 CFR 1.97.

As required by **M.P.E.P. 2001.06(b)** and **37 C.F.R. 1.98(d)**, since the instant application has been identified as a continuation application of an earlier filed application and is relied upon for an earlier filing date under **35 U.S.C. 120**, the examiner has reviewed the prior art cited in the earlier related application as required by **M.P.E.P. 707.05** and **904** and as stated in **M.P.E.P. 2001.06(b)**, no separate citation of the same prior art need be made by the applicants in the instant application.

**INFORMATION CONCERNING CLAIMS:**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent No. 6,718,326 B2 to Uga et al. (hereinafter Uga).

1. In regard to claim 1, Uga teaches:

"An apparatus for identifying a merged lookup result," (**e.g., see column 5, lines 4-26; column 9, lines 43-63; Fig. 2**). *For example the Packet Classification Search Device shown in Fig. 2 represents the apparatus recited in the claim, which is used to identify a combination of group fields or merged lookup results input to the content addressable memory (CAM ) or associative memory.*

"the apparatus comprising:"

"a mechanism for generating a lookup value;" (**e.g., see column 10, lines 4-12**).

"one or more associative memories (**e.g., element 621 in Fig. 2**) for generating a plurality of associative memory results based on the lookup value (**e.g., see column 5, lines 4-26**), the plurality of associative memory results including at least one result from each of said one or more associative memories;" (**e.g., see column 5, lines 42-61**). *For example in response to the search key information (e.g., including the number of search) input, the CAM generates a plurality of search or lookup results.*

"a one or more adjunct memories (**e.g., element 623 in Fig. 2**), coupled to said one or more associative memories (**e.g., element 621 in Fig. 2**), for performing lookup operations on said plurality of associative memory results to generate a plurality of

lookup results;" **(e.g., see column 10, lines 10-12; column 12, lines 45-50)**. *The Search Results Storage Device 623 shown in Fig. 2 represents the adjunct memory that stores the plurality of search results that are accessed to generate the plurality of search or lookup result.*

"and a combiner **(e.g., element 622 in Fig. 2)**, coupled to said one or more adjunct memories **(e.g., element 623 in Fig. 2)**, for merging the plurality of lookup results to generate the merged lookup result." **(e.g., see column 10, lines 37-43)**. *The Packet Classification Search Device 622 shown in Fig. 2 represents the combiner that combines or merges the plurality of lookup results to generate the lookup or search results.*

2. In regard to claim 2, Uga teaches:

"wherein the plurality of lookup results are each associated with precedence indications stored in said one or more adjunct memories **(e.g., element 623 in Fig. 4)**, and wherein said combiner selects one of the plurality of lookup results as the merged result based on said precedence values of the plurality of lookup results." **(e.g., see column 11, lines 26-56; Fig. 4)**. *For example the Packet Classification Search Device or combiner selects one of the plurality of the lookup results based on precedence (e.g., forward with high priority).*

3. In regard to claim 3, Uga teaches:

"wherein each of the plurality of lookup results correspond to a different feature as defined in an access control list." **(e.g., see column 11, lines 26-56; Fig. 4)**. *For*

example table shown in Fig.4 represents the access control list and features are shown under the ACTION column in the Figure.

### **ALLOWABLE SUBJECT MATTER**

Claims 4-23 are allowed.

1. The primary reason for allowance of claims 4-9, 15-19, and 20-21 in instant application is the combination with the inclusion of following limitations: **identifying a second set of access control list entries corresponding to a first feature of said plurality of access control list entries; and programming a second associative memory bank and a second adjunct memory with second associative memory entries corresponding to the second set of access control list entries; wherein said first associative memory entries have a higher lookup precedence than said second associative memory entries.**

2. The primary reason for allowance of claims 10-14 and 22-23 in instant application is the combination with the inclusion of following limitations: **performing substantially simultaneous lookup operations in the plurality of associative memories and adjunct memories to generate a plurality of second lookup results; and merge the plurality of second lookup results and the merged first result to identify a merged second result.**

**: IMPORTANT NOTE :**

*If the applicant should choose to rewrite the independent claims to include the limitations recited in either one of the claims, the applicant is encouraged to **amend the title of the invention** such that it is descriptive of the invention as claimed as required by sec. 606.01 of the MPEP. Furthermore, the **summary of invention** and the **abstract** should be amended to bring them into harmony with the allowed claims as required by paragraph 2 of sec. 1302.01 of the MPEP.*

*As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 C.F.R. § 1.111(b) and § 707.07(a) of the M.P.E.P.*

### **Conclusion**

The prior art made of record and not relied upon are as follows:

1. U. S. Patent Publication No. 2004/0111556 A1 to Torkelsson et al. Method and device for storing and matching arbitrary wide expressions to content addressable memories.
2. U. S. Patent Publication No. 2002/0073073 to Cheng describes Paralleled content addressable memory search engine.
3. U. S. Patent No. 6,374,326 B1 to Kansal et al. describes Multiple concurrent look-up method for content addressable memories, involves extracting bank keys of each CAM bank, which include subsets of bits of common input key.

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4. U. S. Patent No. 5,748,905 to Hauser et al. describes Frame classification using classification keys.

Any inquiry concerning this communication should be directed to Hashem Farrokh whose telephone number is (571) 272-4193. The examiner can normally be reached Monday-Friday from **8:00 AM to 5:00 PM**.

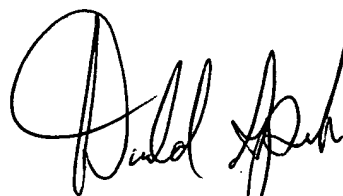
If attempt to reach the above noted Examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Donald A Sparks, can be reached on (571) 272-4201.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBS) at 866-217-9197 (toll-free).

HF

HF

2005-10-27



**DONALD SPARKS**  
**SUPERVISORY PATENT EXAMINER**